

**PATENT APPLICATION**

**BAG INCLUDING A CONTOUR PANEL**

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## BAG INCLUDING A CONTOUR PANEL

### CROSS-REFERENCES TO RELATED APPLICATIONS

5 [0001] This application claims priority from Provisional Application No. 60/427,644, filed November 18, 2002, the disclosure of which is incorporated herein by reference in its entirety for all purposes.

### STATEMENT AS TO RIGHTS TO INVENTIONS MADE UNDER FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

10 [0002] NOT APPLICABLE

### REFERENCE TO A "SEQUENCE LISTING," A TABLE, OR A COMPUTER PROGRAM LISTING APPENDIX SUBMITTED ON A COMPACT DISK.

15 [0003] NOT APPLICABLE

### BACKGROUND OF THE INVENTION

#### 1. Field of the Invention

[0004] The present invention pertains to bags or carrying cases, and more particularly, to a bag or carrying case that includes a contour panel to thereby allow the bag to fit the contour  
20 of or "hug" a person's body.

#### 2. Description of the Prior Art

[0005] People carry many things in today's society, including, for example, brief cases, backpacks, laptop computer bags, etc. Often, these bags are carried by the person with a single strap over the shoulder. The bags are generally flat along their sides and, therefore,  
25 tend to be pushed away from a person's body and hence, the person's center of gravity. This is not good for the person's posture and health. Additionally, especially with heavier bags, it can be uncomfortable for the person.

## BRIEF SUMMARY OF THE INVENTION

[0006] The present invention provides a bag that includes a curved contour panel along a side of the bag. The contour panel allows the bag to curve against a person's body, thus helping pull the center of gravity of the bag closer to the center of the body of the person.

5 [0007] More particularly, a bag for carrying various articles in accordance with the present invention includes a body and a strap coupled to the body for engaging a user's body above their arms. A contour panel is provided adjacent a side of the body. The contour panel is positioned such that it is between any articles within the bag. Furthermore, the contour panel is configured such that it is curved towards the user.

10 [0008] In accordance with one aspect of the present invention, the contour panel is within the body.

[0009] In accordance with another aspect of the present, the contour panel is contained within a sleeve within the body.

15 [0010] In accordance with a further aspect of the present invention, the contour panel is contained within a wall that defines the body.

[0011] In accordance with yet another aspect of the present invention, the contour panel is coupled to an outer wall of the body.

[0012] In accordance with a further aspect of the present invention, the contour panel includes a plurality of through-holes defined therein.

20 [0013] In accordance with yet another aspect of the present invention, the contour panel includes a plurality of cavities defined therein.

[0014] In accordance with a further aspect of the present invention, the contour panel includes padding on at least a portion of a side adjacent to the user.

25 [0015] Other features and advantages of the present invention will be apparent in view of the following detailed description of preferred exemplary embodiments.

## BRIEF DESCRIPTION OF THE DRAWINGS

[0016] Figure 1 is a perspective view of a bag including a contour panel in accordance with the present invention;

[0017] Figure 2A is a top plan view of a contour panel in accordance with the present invention;

[0018] Figure 2B is a side elevation view of a contour panel in accordance to the present invention;

[0019] Figure 2C is a sectional view of a contour panel in accordance with the present invention as seen from the plane indicated by line 2C-2C;

[0020] Figure 3 is an exploded view of a contour panel including padding in accordance with an embodiment of the present invention;

[0021] Figure 4 is a side elevation view of the contour panel illustrated in Figure 3; and

[0022] Figure 5 is a chart illustrating a large male and a small female and the effect of a heavily loaded carrying case on the ninetieth percentile of men and the tenth percentile of women.

## DESCRIPTION OF SPECIFIC EXEMPLARY EMBODIMENTS OF THE INVENTION

[0023] The figures illustrate a contour panel 10 in accordance with the present invention. The panel is placed within the side of a bag 11, either in the bag or within a bag wall 12, for example a pocket or sleeve defined within the bag wall. Preferably, the panel is coupled to the bag wall in some way. Thus, when a person carries the bag, that side of the bag curves around the person's body and facilitates proper posture and alignment of the person's spine. Preferably, the bag is carried such that it curves around the person's hip.

[0024] Figure 1 illustrates an example of bag 11 including contour panel 10 in accordance with the present invention. The bag includes a body 20 and a strap 21 coupled thereto for carrying the bag over a shoulder 22 above a user's arm

[0025] Preferably, the contour panel is made of a rigid plastic and thus, offers protection against hard, bulky or sharp accessories and other computer peripheral devices that are often carried within briefcases and computer bags. This helps prevent such devices from poking the user.

[0026] Thus, in use a person holds the bag such that the contour panel is against their body, preferably adjacent to their hip. The contour panel will "hug" the person's body due to its convex curvature, thereby moving the center of gravity of the bag closer to the center of gravity of the person. By moving the center of gravity of the bag closer to the center of the person carrying the bag, shoulder, back and neck fatigue and discomfort may be minimized.

[0027] Figure 5 illustrates a large male and a small female and the effect of a heavily loaded carrying case on the 90<sup>th</sup> percentile man and the 10<sup>th</sup> percentile woman, the two extremes in human body-types.

[0028] An example of dimensions for a contour panel in accordance with the present invention included a length L of approximately 14 inches. The outer wall has a radius  $R_1$  of approximately 17.0 inches while the inner wall has a radius  $R_2$  of 16.8 inches. Top corners have radiuses  $R_3$  of approximately 1.5 inches while the bottom corners have radiuses  $R_4$  of approximately .5 inches. An example thickness T for the contour panel is approximately .2 inches while an example height H is approximately 9.5 inches. In an embodiment that includes through-holes, an example diameter for the through-holes is approximately .5 inches. An example of a number of holes is approximately 51, with each hole being spaced, for example, approximately 1.25 inches from each other from center to center, with each row being approximately 1.25 inches from each other. These exemplary dimensions are for a briefcase or computer laptop-type carrying bag. Those skilled in the art will understand that the dimensions may be varied depending upon the size of the bag. Additionally, the amount of curvature may be altered to fit different sized people.

[0029] As seen in Figures 3 and 4, contour panel 10 may also include ridges 30 defined therein. These ridges further help reduce the weight of the contour panel, which is desirable since bags, especially those including heavier articles contained therein, already have a fairly high weight. Preferably, the contour panel also includes a plurality of through-holes 31. This also helps keep the weight of the panel to a minimum. Those skilled in the art will understand that through-holes 31 may be replaced with cavities, i.e., holes that do not extend all the way through the contour panel in order to achieve an overall weight reduction.

[0030] Preferably, some type of soft foam or padding 40 is provided on the side of the contour panel that is placed adjacent the user. This provides extra cushioning and comfort for the user. An example is illustrated in Figure 3. Those skilled in the art will understand that

cushioning on the panel may be alternately placed or incorporated into the outer wall of a bag or carrying case in order to achieve the same cushioning effect.

**[0031]** The foregoing descriptions of specific embodiments of the present invention have been presented for purposes of illustration and description. They are not intended to be  
5 exhaustive or to limit the invention to the precise forms disclosed, and obviously many modifications and variations are possible in light of the above teaching. The embodiments were chosen and described in order to best explain the principles of the invention and its practical application, to thereby enable others skilled in the art to best utilize the invention and various embodiments with various modifications as are suited to the particular use  
10 contemplated. It is intended that the scope of the invention be defined by the Claims appended hereto and their equivalents.